Air Pollution Control Date: August 23, 2002
Title V Permit to Operate
Statement of Basis for Permit No. R10T5-ID-00-02

Three Rivers Timber, Inc.
Nez Perce Reservation
Kamiah, Idaho

1. EPA Authority to Issue Part 71 Permits

On July 1, 1996 (61 FR 34202), EPA adopted regulations codified at 40 CFR Part 71 setting forth the procedures and terms under which the Agency would administer a federal operating permits program. These regulations were updated on February 19, 1999 (64 FR 8247), to incorporate EPA's approach for issuing federal operating permits to covered stationary sources in Indian Country.

As described in 40 CFR 71.4(a), EPA will implement a Part 71 program in areas where a state, local, or Tribal agency has not developed an approved Part 70 program. Unlike states, Indian Tribes are not required to develop operating permits programs, though EPA encourages Tribes to do so. See, for example, Indian Tribes: Air Quality Planning and Management (63 FR 7253, February 12, 1998) (also known as the "Tribal Authority Rule"). Therefore, within Indian Country, EPA will administer and enforce a Part 71 federal operating permits program for stationary sources until Tribes receive approval to administer their own operating permits programs.

2. The Nez Perce Tribe

a. Indian Country: Three Rivers Timber is located within the exterior boundaries of the Nez Perce Reservation and is in Indian Country, as defined in 40 CFR Part 71.

b. The Nez Perce Reservation: In 1855, Governor Stevens concluded a treaty with the Nez Perce recognizing tribal rights to an immense tract of country consisting of some 7.5 million acres. A new treaty in 1863 reduced the reservation to its current size of approximately 760,000 acres located in northern Idaho. Today there are 15 communities located within the boundaries of the reservation. Based on 1986 data, the population is estimated at about 11,400 within the incorporated communities. Another 5,000 to 6,000 people live in the rural areas. Tribal enrollment is approximately 3,300 members with 1,000 members living off the reservation.

c. Tribal Government: The Nez Perce Tribe operates under a constitution that was approved in 1958. The Tribe's constitution provides that a nine member Nez Perce Tribal Executive Committee is the governing body.

d. Local Air Quality and Attainment Status: Northern Idaho, including the Nez Perce Reservation, either attains the national ambient air quality standard for all criteria pollutants or is "unclassified". An area is unclassifiable when there is insufficient monitoring data. The only monitoring data for the Nez Perce Reservation is based on a particulate matter monitor which is operated in Kamiah. Data from this monitor indicates both daily and annual averages generally well below the standards for particulate. The Nez Perce Tribe is currently conducting their first air quality survey of the reservation using "MiniVol" samplers.

3. **Facility Information**

a. Location: The Three Rivers Timber facility is a privately owned company which is located 1.3 miles north of Kamiah, Idaho along the Clearwater River and is doing business within the exterior boundaries of the Nez Perce Reservation and is in Indian Country, as defined by 40 CFR Part 71. The mailing address is:

Three Rivers Timber, Inc.
P.O. Box 757, Woodland Road
Kamiah, Idaho 83536

b. Facility Contact/Responsible Official

The facility contact and responsible official is Herb Hazen, Vice President.

c. General Description of Operations and Products

Three Rivers Timber is a privately owned company. The site comprises 34 acres and includes process areas, a log yard, shops, offices, open and covered storage, and warehouse areas. The mill processes raw logs into rough green lumber, which may be air dried or dried in kilns. Lumber may then be planed to produce a finished surface prior to shipping. Wood residues from the sawmill and planer mill areas are both used onsite as fuel, as well as sold to outside parties. The site contains facilities for the repair and maintenance of log and lumber handling equipment, as well as mobile and other miscellaneous equipment and vehicles used in mill operations.

Logs are delivered by haul truck, sorted and debarked prior to being sent to the sawmill. Once cut, the lumber is sorted then sent to drying kilns, then to a planer, and subsequently sorted for shipment to customers via truck or rail. There are no wood preservatives or gluing operations. Wood waste (bark, sawmill waste, planer waste) from debarkers, sawing, and other operations are used as fuel for the two boilers which produce non contact steam which is the heat source in the drying kilns to remove moisture from the green lumber and is also used for building heat. Depending on the

market need and availability, the mill processes ponderosa pine, douglas fir, white fir, cedar, and Idaho white pine.

d. Emission Units and Emission Generating Activities

Three Rivers Timber, Inc. provided in their application the information contained in Table 1. Table 1 lists emission units, a description of emission generating activities, and information regarding any control devices. This is an old mill that was purchased by Three Rivers Timber on February 16, 1996. Except as noted below, Three Rivers Timber was unable to identify the date of installation of most equipment. The date of installation and any modification to the equipment can be important for determining the applicability of some federal standards (see further discussion in Section 4 - Applicable Requirements).

Table 1 does not include two units that were included in the original application - units 9 and 21. Unit 9 consists of the Babbitt Pot and two Grinders/Filings exhausts. EPA determined that these were two separate units rather than one. Emissions of particulate from these units are difficult to estimate because there is no appropriate emission factor. Three Rivers Timber made reasonable worst case assumptions and determined that the two grinders/filings exhausts would have a maximum potential to emit of less than 2 tons/yr. The Babbitt Pot is even more difficult to estimate but, based on worst case assumptions, is likely to be less than 1 ton/yr. Therefore, these units qualify as insignificant emissions units and were moved to Table 2 (see discussion below of insignificant emissions units). Unit 21, unpaved mill roads, was combined with unit 20, unpaved log yard roads.

Part 71.5 (c)(11)(ii)(A) and (B) allow sources to separately list in the permit application such units or activities that qualify as "insignificant" based on potential emissions below two tons/year for all regulated pollutants that are not listed as hazardous air pollutants ("HAP") under Section 112(b) and below 1000 lbs/year or the de minimus level established under Section 112(g), whichever is lower, for HAPs. However, the application may not omit information needed to determine the applicability of, or to impose, any applicable requirement, or to calculate the permit fee. Units that qualify as "insignificant" for the purpose of the Part 71 permit application are in no way exempt from applicable requirements or any requirements of the Part 71 permit. Table 2 lists the units identified by Three Rivers Timber, Inc., in their permit application as qualifying as "insignificant" emission units for permit application purposes.

Table 1

Emission Units and Control Devices

Three Rivers Timber, Inc.

Emissions Unit and Unit ID #	Description	Control Device
Debarker # 01	• Used to remove bark from raw logs outdoors	none
Debarker # 02	• Used to remove bark from raw logs outdoors	none
Shavings/Sawdust Bin # 03	• Green (i.e., not from dried lumber) sawdust from sawing is conveyed to storage bin prior to transfer to trucks for shipment offsite	none
Green Chip Bin # 04	• Green chips from sawing is conveyed to storage bin prior to transfer to trucks for shipment offsite	none
Shavings/Sawdust Bin Cyclone (W5) # 05	• Green sawdust from sawmill is blown to unit #03 and transferred through the W5 cyclone • Installation date - 1/25/94	none
Green Chip Cyclone (W6) # 06	• Trim ends from sawmill are chipped and blown via W6 cyclone to the shaker screen which separates the green chips from the small wood dust particles. • Chips are blown to unit 04 and dust to 03	none
Cutoff Saw # 07	• Cuts logs to length prior to debarking • Located outdoors	none
Bark Conveyors # 08	• Mostly uncovered conveyors that transport mostly green bark • Most bark is burned onsite in units 10 & 11 • Some bark is transferred offsite	none

Wood Waste Boiler # 10	• #10 and 11 boilers are identical • Boilers are typically operated at about the same steam output • Installation date estimated as 1948 • Maximum design heat input estimated at 31.7 MM BTU/hr • Burns wood waste and nonhazardous manufacturing residuals (e.g., used oil)	Multiclone Installation date unknown #10-C01
Wood Waste Boiler # 11		Multiclone Installation date unknown #11-C01
Boiler Blowdown Tank # 12	• Chemicals are added to the boiler feedwater to inhibit corrosion • Emissions of these non-HAP chemicals as they evaporate in the blowdown tank have been included in the emission estimates	none
Atlas Fuel Bin Cyclone (W3) # 13	• Dried wood waste from the planer mill is directed to either the Atlas fuel bin (unit #16) or the shavings/sawdust bin (unit #03) through the respective cyclone • W3 and W4 cyclones are an operational pair - only one operates at a time • W3 Cyclone was installed in 1994 as part of a consent order with IDEQ	none
Shavings/Sawdust Bin Shavings Cyclone (W4) # 14		none
Hog Fuel Bin # 15	• Hog fuel consists of bark and other wood waste • Most hog fuel is burned onsite in the boilers (units # 10 and 11) but some is shipped offsite via truck	none
Atlas Fuel Bin # 16	• Shavings from the planer mill are transferred via the W3 cyclone (unit #13) for storage as boiler fuel	none
Lumber Dry Kiln # 17	• Seven separate dryers in one building • Green lumber is dried with non-contact steam generated by the hog fuel boiler	none
Hog Cyclone (H1) #18	• Dried trim ends from the planer mill are chipped and blown via the H1 cyclone to the shavings/sawdust bin (unit #03) for storage	none
Trim Saw Cyclone (W2) # 19	• Transfers sawdust from the planer mill trim saws into a sucker/blower system which conveys the dust to the shavings/sawdust bin	none

Unpaved Log Yard Roads # 20	• Logs are scaled, sorted, and inventoried in the log yard • Delivery and movement of logs and other vehicle use can cause fugitive dust	none
Paved Mill Road # 22	• Less dust is caused by vehicle use on paved roads	none

Table 2
Insignificant Emission Units
Three Rivers Timber, Inc.

Babbitt Pot
Two Grinders/Filings Exhaust
Log infeed decks
Hog Storage
Sawmill Building Vents
Sorter Building Vents
Powerhouse Fan/Vent
Wood Residue Pile
Steam Condensate Pile
Planer Building Roof Vents
Lumber Storage Shed Roof Vents
Fire Station Roof Vents
Maintenance Shop Roof Vents
500 Gallon Gas Tank and Fueling Station
Wood Debris Landfill (no household or municipal waste)
Lumber Shipping
Log Storage
Emergency Water Diesel Motors
22,000 Gallon Diesel Tank and Fueling Station

e. Potential to Emit

Table 3 includes potential to emit (PTE) data provided by Three Rivers Timber in their original application and, after consultation with EPA, in revised submittals. PTE means the maximum capacity of Three Rivers Timber to emit any air pollutant (criteria or HAPs) under its physical and operational design. Any physical or operational limitation on the maximum capacity of Three Rivers Timber to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, may be treated as part of its design if the limitation is enforceable by EPA. PTE is meant to be a worst case emissions calculation and is used in many, though not all, cases to determine the applicability of federal requirements. Actual emissions may be much lower than PTE. For example, all of the emission estimates in Table 3 are based on 24 hour operation of the facility whereas the Three Rivers Timber normally operates only two shifts a day.

Each emission estimate in Table 3 relies upon the use of an "emission factor" contained in Table 7. Emission factors are numbers derived from testing of emissions from one or more facilities. The emissions measured by the tests are correlated to some production rate or some other easily measured quantity. An emission factor is thereby developed which can be used to estimate emissions by simply multiplying the emission factor by the production rate or other specified known quantity.[1] Emission factors are obtained from industry, state, and federal publications and are meant to be industry averages. Emission factors can also be derived from a source specific emissions test as was done for particulate matter and carbon monoxide from the boilers at this facility. In any event, although widely used, emission factors can only *estimate* emissions. For applicability and compliance purposes, it is the responsibility of the source to accurately characterize and estimate their own emissions and appropriately use emission factors. Inaccurate characterization and estimation of the source's emissions could result in an enforcement action.

Soot, dust, and other air pollution in the form of particles are measured two ways: as particulate matter of 10 microns or less (PM10) and as total particulate (PM). PM10 is a subset of PM. In other words, PM emissions will always be the same as or larger than PM10 emissions. Similarly, pollutants that are categorized as hazardous air pollutants (HAP) are almost always in the form of particulates (e.g., PM10 or PM) or volatile organic compounds (VOC), as well. So, for this source, some of the emissions estimated for HAPs from the wood waste boilers have also been included in the VOC and PM/PM10 estimates of emissions from the boilers. Therefore, in evaluating the data in

[1] For example, the emission factor for sulfur dioxide (SO2) from wood fired boilers is 0.022 lb SO2/MMBtu. (Btu is a measure of heat capacity of the boiler.) To determine the maximum potential to emit of SO2 for the wood fired boilers at the Three Rivers Timber facility, the emission factor (0.022 lb CO/MMBtu) is multiplied by the maximum heat capacity of the boiler times the maximum hours of operation (31.7 MMBtu/hr X 8760 hrs/yr) and divided by 2000 lbs/ton to convert from pounds SO2 to tons. This results in an estimated maximum emission of 3 tons SO2 per year.

Table 3, it is important to be aware that some of the air pollutants are double counted.

Following is a discussion of the emission factors derived from source tests conducted on the Wood Waste Boilers (Emission Units 10 and 11):

> Three Rivers Timber calculated the PTE of particulate matter (PM and PM10) for wood waste boilers using an emission factor derived from source tests of both boilers in June and September, 1993 (only unit 10 was tested in September). Testing results were comparable for both boilers and ranged from 0.041 to 0.051 gr/dscf with O2 levels ranging from 16.3% to 17.6%. Each of the two wood waste boilers is controlled for particulate matter with a multiclone. However, since there is no federally enforceable requirement that Three Rivers Timber use the control devices, PTE must be calculated as if the control devices were not present. To do this, EPA used the emission factor developed by Three Rivers Timber from the source test and accounted for the effect of the control devices (multiclones) by increasing the emissions based on the assumption that the multiclones have a particulate removal efficiency of 60%. This resulted in an increase in estimated PTE of PM and PM10 emissions from 56 tons per year to 139 tons per year for each boiler.[2]
>
> Three Rivers Timber conducted a new source test on each of the boilers for carbon monoxide (CO) in May 2000 after completing significant and permanent improvements in fuel handling, storage, and boiler operating conditions which the company believed would result in much lower CO emissions. The test on unit 10, at an average O2 content of 13.8%, measured 57.8 ppm CO (averaged over three test runs) while the test on unit 11, at an average O2 level of 12.7%, measured 103.9 ppm CO. CO emissions tend to be highly variable and because of this, Three Rivers Timber used the higher of the two measurements (103.9 ppm CO) to develop an emissions factor for both boilers and, further, doubled the resultant value as an extra precaution to assure emissions were not underestimated. This resulted in a calculated PTE of CO from each boiler of 56 tons per year. This is a significant reduction in potential CO emissions from previous estimates which were based on source tests conducted in June and September of 1993 and resulted in estimated maximum potential emissions of 333 tons CO from each boiler.

Following is a discussion of changes EPA made to emissions estimates for the volatile organic compound (VOC) emissions from the Wood Waste Boilers (Emission Units 10 and 11):

> Three Rivers Timber used emission factors derived from recent source tests performed by the Oregon Department of Environmental Quality on wood waste boilers in Oregon. These tests resulted in VOC emission factors ranging from

[2]Although the effect of the control device is not considered in calculating *potential* maximum emissions, it is completely appropriate for Three Rivers Timber to include the effect of the control device when calculating their *actual* emissions each year for fee purposes.

0.001 lbs VOC/1,000 lbs steam to 0.09 lbs VOC/1,000 lbs steam. Three Rivers Timber used an average VOC emission rate from these tests of 0.016 lb VOC/1000 lb steam. Assuming 65% efficiency, this emission factor converts to 0.022 lb VOC/MMBtu. While this is a reasonable emission factor based on reputable testing, EPA prefers to use either an emission factor derived from a source specific test (i.e., one conducted on Three Rivers Timbers' boilers) or a publically available emission factor. For this reason, EPA used a similar emission factor (0.018 lb VOC/MMBtu) contained in the Oregon Department of Environmental Quality's permitting and inspection manual. This resulted in a very small decrease in estimated VOCs from this source.

Following is a discussion of changes EPA made to emissions estimates for the Atlas/Fuel Bin (Emission Unit #16):

In calculating particulate emissions from loading and unloading the fuel bin, Three Rivers Timber apparently used an emission factor for *venting* from fuel bins rather than *loading*. EPA used the emission factor for loading bins resulting in values about double the emissions calculated by Three Rivers Timber.

Following is a discussion of changes EPA made to emissions estimates for the Lumber Dry Kilns (Emission Unit #17):

The volatile organic compound (VOC) emissions for the seven lumber dry kilns are based on the emission factors from a National Council Of The Paper Industry for Air And Stream Improvement, Inc. (NCASI) Technical Bulletin No. 718 (A Small-Scale Kiln Study On Method 25A Measurements Of Volatile Organic Compound Emissions From Lumber Drying - July 1996). Three Rivers Timber's application presented the VOC emission factors for each wood species as "lb /Mbf". However, the NCASI Technical Bulletin references the emission factors as "lb C/Mbf". The "C" means relative to carbon and the emission calculation should have been adjusted to the "primary compound" as being either acetic acid for non-pine woods and terpene for pine woods. The Carbon adjustment is based on the molecular weight (MW) of the acetic acid (60) and terpene (136) divided by the MW of the Carbons in the respective compound. Therefore, EPA has adjusted the VOC estimates by either 2.5 (60/24) or 1.13 (136/120), for non-pine woods and pine woods, respectively. This change resulted in a small increase in estimated potential VOC emissions from 110 to 124 tons/yr.

Table 3

Potential to Emit in Tons per Year
Three Rivers Timber, Inc.

Emission Unit and Unit ID	**Air Pollutants** N0x - oxides of nitrogen VOC - volatile organic compounds SO2 - sulfur dioxide PM - particulate matter PM10 - particulate matter with a diameter 10 microns or less CO - carbon monoxide HAP - hazardous air pollutants (Clean Air Act, Section 112(b))							
	NOx	VOC	SO2	PM	PM10	CO	Lead	HAP
Debarker* # 01				(3)*	(1)*			
Debarker* #02				(3)*	(1)*			
Sawdust/shavings Bin loading #03a				15	9			
Sawdust/shavings truck loading #03b				31	18			
Green Chip Bin loading #04a				3	2			
Green Chip truck loading #04b				51	30			
Shavings/Sawdust Bin Cyclone #05				9	5			
Green Chip Bin #06				16	8			
Cutoff Saw* #07				(18)*	(10)*			
Conveyors* #08				(4)*	(2)*			
Wood Waste Boiler #10	55	2.5	3	139	139	56	trace	1.3
Wood Waste Boiler #11	55	2.5	3	139	139	56	trace	1.3
Boiler Blowdown Tank #12		1						
Fuel Bin Cyclone #13				4	3			

Shavings/Sawdust Bin Shavings Cyclone #14				4	3			
Hog Fuel Bin*#15				(11)*	(7)*			
Atlas Fuel Bin#16				35	21			
Lumber Dry Kilns #17		124		25	14			**
Hog Cyclone #18				2	2			
Trim Saw Cyclone #19				29	15			
Unpaved Log Yard Roads* #20				(288)*	(29)*			
Paved Mill Road* #22				(46)*	(5)*			
TOTALS	110	130	6	501	410	112	trace	3

* The emissions from this unit are considered "fugitive," as defined in 40 CFR Part 71 and do not need to be included in PTE calculations for most applicability purposes and have not been added into the total.

** No data was provided in the application. Since there are no emission limits for these pollutants for these emission units, at this time, EPA does not feel that the absence of this data impacts our ability to issue this permit. EPA will work with Three Rivers Timber to develop emission estimates for these pollutants so that complete and accurate data is available for future reference.

f. Permitting and/or Construction History

The facility currently owned by Three Rivers Timber was previously owned by Weyerhaeuser, by Rawlins Construction/Triple R Forest Products Limited Partnership, and by Potlatch Corporation. The mill was reportedly built in the late 1950s and owned by the Potlatch Corporation until it was shut down in March 1984. Potlatch subsequently sold the mill to Rawlins Construction Company in January 1986. Rawlins transferred the mill to Triple R Forest Products, a Montana limited partnership, with Rawlins as general partner, and Weyerhaeuser Company as the limited partner. Operation of the mill resumed in November/December 1986 with normal production beginning in January 1987. In March 1988, Weyerhaeuser Company purchased Rawlins' general partnership. The limited partnership structure was formally dissolved in February 1993 leaving with Weyerhaeuser in full ownership. Three Rivers Timber purchased the mill from Weyerhaeuser in 1994.

In June 1994, Weyerhaeuser submitted a report to EPA on its review of the facility's historical compliance with the Clean Air Act's New Source Review (NSR) and Prevention of Significant Deterioration (PSD) requirements. This report indicated that there had been no changes at the facility which would have triggered the requirement to obtain a permit under NSR/PSD during the period in which the facility was owned and operated by Rawlins Construction/Triple R Forest Products nor during the subsequent period of ownership by Weyerhaeuser. By letter dated June 23, 1994, EPA, based on the information provided by Weyerhaeuser, agreed that the reactivation of the mill in 1986 did not require a PSD permit. The historical analysis showed that the original Potlatch facility operated four boilers and seven dry kilns. Two of the boilers were decommissioned prior to restarting the facility in 1986. The report also states that the physical capacity of the mill to process lumber is limited by the amount of steam that can be produced by the boilers.

On July 28, 1992, the Idaho Department of Environmental Quality[3] (IDEQ), signed a consent order with Triple R Forest Products which addressed multiple opacity violations associated with the boilers and fuel conveyance system. As a result of this consent order, Triple R Forest products was required to: conduct an emissions test of the Northeast boiler (unit #10); develop an Operations and Maintenance manual; install overfire air inlets to the boiler to provide better mixing; install a char reinjection system to provide more complete combustion of boiler fuels; repair the induced draft fan system to provide more complete combustion of fuel in the boiler; install controls to regulate boiler feed rate and height of the fuel piles in the boiler; modify the fuel storage and conveyor to provide uniform fuel mix; replace the atlas fuel bin cyclone (unit #13), and replace the opacity meter for monitoring emissions. IDEQ determined that a preconstruction permit was required for the installation of the cyclone which was issued to Weyerhaeuser on December 8, 1993. At Weyerhaeuser's request, IDEQ officially terminated the consent order on February 28, 1996, upon successful completion of the requirements and conditions contained in the order.

Except for the restarting of the facility in 1986, as discussed above, EPA has not received sufficient information from the source to draw conclusions regarding the applicability of PSD permitting requirements to other changes that have occurred at the facility. For this reason, no enforcement shield is implied or granted.

4. Applicable Requirements

Based on the information provided by the source in their application, Three Rivers Timber is subject to the following applicable requirements (see section III and IV

[3] Past approvals of State Implementation Plans (SIPs) do not extend to Indian Country unless the state has made an explicit demonstration of jurisdiction over Indian Country and EPA has explicitly approved the state's SIP for such an area. No such showing has been made by the State of Idaho. Therefore, any permits or consent decrees issued by IDEQ to the permittee are not recognized under the Clean Air Act.

of the permit) for the following reasons:

a. Chemical Accident Prevention Program - 40 CFR Part 68

The Chemical Accident Prevention Program requires sources who use or store regulated substances above a certain threshold to develop plans to prevent accidental releases. Based on Three Rivers Timber's application, Three Rivers Timber currently has no regulated substances above the threshold quantities in this rule and therefore is not subject to the requirement to develop and submit a risk management plan. This requirement is included in Three Rivers Timber's permit because Three Rivers Timber has an ongoing responsibility to submit a risk management plan If a substance is listed that Three Rivers Timber has in quantities over the threshold amount or If Three Rivers Timber ever increases the amount of any regulated substance above the threshold quantity. Including this term in the permit minimizes the need to reopen the permit if Three Rivers Timber becomes subject to the requirement to submit a risk management plan.

b. Stratospheric Ozone and Climate Protection - 40 CFR Part 82

Based on Three Rivers Timber's application, Three Rivers Timber does not currently engage in the activities regulated under this provision. Including this term in the permit minimizes the need to reopen the permit if Three Rivers Timber does any maintenance, service, repair, or disposal, of any equipment containing chlorofluorocarbons (CFCs), or contracts with someone to do this work.

c. NESHAP - 40 CFR Part 61, Subpart M - Demolition or Renovation Activity

Based on Three Rivers Timber's application, Three Rivers Timber is not currently engaged in the activities regulated under this provision. If Three Rivers Timber conducts any demolition or renovation activity, they must assure that the project is in compliance with the federal rules governing asbestos including the requirement to conduct an inspection for the presence of asbestos. Including this term in the permit minimizes the need to reopen the permit if Three Rivers Timber ever conducts any demolition or renovation activity.

d. Other Requirements

EPA also evaluated the applicability of the following requirements based on the information provided by Three Rivers Timber in their application and came to the following conclusions:

i. NSPS - 40 CFR Part 60, Subpart Dc - Standards of Performance for Small Steam Generating Units

The two wood waste boilers were constructed prior to June 19, 1984, the applicability date of this standard. Three Rivers Timber asserts that no known

modification or reconstruction of the boilers occurred after June 19, 1984, as those terms are defined in 40 CFR Part 60.2. Based on this information (i.e., that the subject boilers were built before the applicability date and were not modified after the applicability date), EPA is not including the requirements of this standard in the permit.

ii. Compliance Assurance Monitoring Rule (CAM) - 40 CFR Part 64

CAM applies to emission units subject to an emission limit and with a pre-control potential to emit greater than the major source threshold. However, only units with post control potential to emit greater than the major source thresholds must comply with CAM at initial permit issuance. All other units that meet the CAM applicability criteria must be in compliance at permit renewal and may also be required to submit a CAM plan if a significant change is made to the unit prior to renewal. None of the emission units with post control potential to emit greater than the major source threshold are also subject to an emission limit, and are therefore not subject to CAM at this time.

iii. NSPS - 40 CFR Part 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels

Subpart Kb applies to storage tanks sized 40 cubic meters or greater, storing volatile organic liquids, and which were constructed, reconstructed or modified after July 23, 1984. In the application, Three Rivers Timber noted a 22,000 gallon diesel storage tank. A tank of this capacity is approximately 83 cubic meters and would be subject to certain record keeping requirements of the standard if constructed or modified after July 23, 1984. However, after querying long time employees of the facility, Three Rivers Timber concluded that the tank was installed "long before" 1984 and had not been modified. Based on this information, EPA concluded that the storage tank is not subject to this standard.

iv. NESHAP - 40 CFR Part 63, Subpart X - National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting

The application included a description of a "Babbitt Pot" used to melt lead for plant maintenance activities. Such a use might have constituted an activity regulated under Subpart X. In response to questions from EPA, Three Rivers Timber provided the material safety data sheets (MSDS) for the material used in the Babbitt Pot. The MSDS showed that the material is a mixture of tin, antimony, copper, and nickel with no lead. Based on this information, EPA is satisfied that the Babbitt Pot is not used for secondary lead smelting. Further, although no emission factor is available for Babbitt Pots, based on how this unit is used and on published emission factors for other kinds of smelting units, EPA is satisfied that potential maximum emissions from this unit are sufficiently small to justify listing the Babbitt Pot as an insignificant emission unit.

v. Federal Plan Requirements for Existing Municipal Solid Waste Landfill - 40 CFR

Part 62, Subpart GGG

The permit application included on the list of "insignificant emission units" a landfill. Landfills that take household waste are subject to either the New Source Performance Standards of 40 CFR Subpart WWW or the federal plan requirements of 40 CFR Subpart GGG. EPA confirmed that the landfill at the Three Rivers Timber facility does NOT take any household or municipal waste but only disposes of wood debris from the facility and therefore does not meet the definition of a municipal solid waste landfill.

vi. Prevention of Significant Deterioration (PSD)

Three Rivers Timber is a "major" source for PSD purposes because its potential to emit of one or more pollutants (carbon monoxide historically and particulate matter historically and currently) is greater than 250 tons per year. Although Three Rivers Timber does not currently have a PSD permit (as discussed in section 3(f)), since it is an existing "major" PSD source, it will become subject to PSD permit requirements if any physical change or change in the method of operation of the facility increases the potential to emit of any pollutant greater than the significant levels given in Table 4 below.

As discussed in section 3(f), except for the restarting of the facility in 1986, based on information provided by the source, EPA has not drawn any conclusions regarding compliance with past PSD permitting requirements at this facility and no enforcement shield is implied or granted.

Table 4

Prevention of Significant Deterioration
Significant Emission Rate Increases for Existing Major Sources

Pollutant	Emission Rate in Tons per Year
Particulate Matter (PM)	25
Fine Particulate (PM10)	15
Sulfur Dioxide (SO_2)	40
Nitrogen Oxide (NOx)	40
Volatile Organic Compounds (VOC)	40
Carbon Monoxide (CO)	100
Lead	0.6
Fluorides	3
Sulfuric Acid Mist	7
Hydrogen Sulfide (H_2S)	10
Total Reduced Sulfur Compounds (TRS) - including H_2S	10
Municipal Waste Combustor (MWC) acid gases	40
MWC metals	15
MWC organics	3.5×10^{-6}
Municipal Solid Waste Landfills - Non-Methane Organic Compounds	50
Chlorofluorocarbons (CFCs) and Halons	any emission rate

vii. Other Requirements

Based on the information provided in Three Rivers Timber's application, EPA has no evidence that this source is subject to any existing applicable federal CAA programs except those discussed above. Federal CAA programs include Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and the acid rain program under Title IV of the CAA. Further, Three Rivers Timber is not subject to any state implementation plan (SIP) requirements which are applicable within state jurisdictions. Therefore, based on information

provided by the source in the application, except for the generally applicable requirements of the chemical accident prevention program, the stratospheric ozone protection program, and the demolition and renovation requirements, Three Rivers Timber is not subject to any other substantive requirements that control their emissions under the CAA.

EPA recognizes that, in some cases, sources of air pollution located in Indian Country are subject to fewer requirements than similar sources located on land under the jurisdiction of a state or local air pollution control agency. To address this regulatory gap, EPA is in the process of developing national regulatory programs for preconstruction review of major sources in nonattainment areas and of minor sources in both attainment and nonattainment areas. These programs will establish, where appropriate, control requirements for sources that would be incorporated into Part 71 permits. To establish additional applicable, federally-enforceable emission limits, EPA Region 10, in consultation with Tribes and other stakeholders, has drafted a Federal Implementation Plan (FIP) that will establish federal requirements for sources in Indian Country within Region 10. The Region hopes to propose this FIP within the year. EPA will establish priorities for its direct federal implementation activities by addressing as its highest priority the most serious threats to public health and the environment in Indian Country that are not otherwise being adequately addressed. Further, EPA encourages and will work closely with all tribes wishing to develop Tribal Implementation Plans (TIPs) for approval under the Tribal Authority Rule. EPA intends that its federal regulations created through a FIP will apply only in those situations in which a tribe does not have an approved TIP.

5. **Use of All Credible Evidence**

Determinations of deviations, continuous or intermittent compliance status, or violations of the permit are not limited to the testing or monitoring methods required by the underlying regulations or this permit; other credible evidence (including any evidence admissible under the Federal Rules of Evidence) must be considered by the source and EPA in such determinations.

6. **Annual Emission Inventory and Fee Submittal**

Three Rivers Timber is required to provide an annual emissions inventory of their actual emissions for the preceding calendar year and to pay fees based on that inventory. EPA has included in Tables 5 and 6 below the equations and emission factors, modified by EPA as discussed in section 3.e, that Three Rivers Timber used to calculate their emissions and to pay their initial fees. These equations and emission factors are based on information provided by Three Rivers Timber in their application. Three Rivers Timber has an ongoing obligation to assure that all data in their application is correct and to notify EPA of any errors or omissions (See permit term IX.A.(b)). Also, Three Rivers

Timber is required to certify to the accuracy and completeness of all data submitted to EPA, including the accuracy of its annual emission inventory. If at any time EPA becomes aware of a more accurate way to characterize the emissions from Three Rivers Timber, through information provided by the source or by any other means, these equations and/or emission factors will be revised. It is EPA's expectation that Three Rivers Timber will use these equations and emission factors to calculate their annual emissions and to pay fees unless Three Rivers Timber can justify, in writing, why a different equation or emission factor or other estimation methodology more accurately represents their emissions for the year.

All of the calculations in Tables 5 and 6 rely upon emission factors. Please see the discussion of the uses and limitations of emission factors above under 3(f). Table 7 describes the source of each emission factor used in Tables 5 and 6.

Calculate actual annual emissions, for fee purposes, for emission units 01 through 19 using the following equation and data specified in Table 5 below:

$E = EF \times AP \times K$

Where:

- E = pollutant emissions in tons/year;
- AP = recorded production rate or actual annual throughput for parameter identified in Table 5 in the units specified;
- EF = emission factor from Table 5; and,
- K = 1 ton/2000 lbs for conversion of actual annual emissions from pounds per year to tons per year.

Table 5

Calculating Actual Annual Emissions for Fee Purposes for Point Sources
Emissions Units 01 through 19

Emissions Unit and Unit ID #	Pollutant	Emission Factor (EF)	Emission Factor Units	Actual Production (AP)	Actual Production Units
Debarker #01	PM10	0.011	lb PM10/ton logs	raw logs processed	tons/year
Debarker #02	PM10	0.011	lb PM10/ton logs	raw logs processed	tons/year
Shavings/Sawdust Bin Loading #03a	PM10	0.23	lb PM10/ton at 50% moisture content	green sawdust from saws transferred to bin	tons/year at 50% moisture content
Shavings/Sawdust Truck Loading #03b	PM10	0.48	lb PM10/ton at 50% moisture content	green sawdust from bin transferred to trucks	tons/year at 50% moisture content

Green Chip Bin #04a	PM10	0.05	lb PM10/bd ton at 0% moisture content	green chips from saws to storage bin	tons/year at 0% moisture content
Green Chip Truck Loading #04b	PM10	0.48	lb PM10/ton at 50% moisture content	green chips from bin transferred to trucks	tons/year at 50% moisture content
Shavings/Sawdust Bin Cyclone #05	PM10	1.1	lbs PM10 per hour	green sawdust from emission unit #03	hours per year of operation
Green Chip Cyclone #06	PM10	0.25	lb PM10/bd ton at 0% moisture content	trim ends/chips from cyclone to shaker	tons/year at 0% moisture content
Cutoff Saw #07	PM10	0.08	lb PM10/ton logs at 55% moisture content	logs cut prior to debarking	tons/year at 55% moisture content
Conveyors #08	PM10	0.011	lb PM10/ton material	material conveyed (mostly green bark)	tons/year
Wood Waste Boiler #10	NOx	0.396	lb NOx/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
	VOC	0.018	lb VOC/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
	SO2	0.022	lb SO2/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
	PM10	0.4	lb PM10/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
Wood Waste Boiler #11	NOx	0.396	lb NOx/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
	VOC	0.018	lb VOC/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
	SO2	0.022	lb SO2/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr

	PM10	0.4	lb PM10/MMBtu	amount of fuel burned in lbs/yr times the Btu value of the fuel (4500 Btu/lb fuel)	MMBtu/yr
Boiler Blowdown #12	VOC	0.45	lb VOC/lb corrosion inhibitor	amount of corrosion inhibitor used	lbs of corrosion inhibitor used per year
Fuel Bin Cyclone #13	PM10	0.2	lb PM10/ton at 20% moisture content	wood waste from either Atlas fuel bin (unit #16) and shaving/sawdust bin (unit #03)	tons/year at 20% moisture content
Shavings/Sawdust Bin Shavings Cyclone #14	PM10	0.2	lb PM10/ton at 20% moisture content	wood waste from either Atlas fuel bin (unit #16) and shaving/sawdust bin (unit #03)	tons/year at 20% moisture content
Hog Fuel Bin #15	PM10	0.48	lb PM10/ton at 50% moisture content	bark and wood waste at hog fuel bin	tons/year at 50% moisture content
Atlas Fuel Bin #16	PM10	1.2	lb PM10/ton at less than 25% moisture content	shavings from W3 cyclone (unit #13)	tons/year at less than 25% moisture content
Lumber Dry Kiln #17	PM10	0.19	lb PM10/Mbf	total lumber dried (regardless of species)	Mbf/year
(Ponderosa Pine)	VOC	2.1	lb VOC/Mbf	lumber dried by species	Mbf/year
(Idaho White Pine)	VOC	2.6	lb VOC/Mbf	lumber dried by species	Mbf/year
(Douglas Fir)	VOC	2.0	lb VOC/Mbf	lumber dried by species	Mbf/year
(White Fir (Grand Fir))	VOC	1.3	lb VOC/Mbf	lumber dried by species	Mbf/year
(Cedar)	VOC	0.3	lb VOC/Mbf	lumber dried by species	Mbf/year
Hog Cyclone #18	PM10	0.2	lb PM10/ton at 20% moisture content	amount of trim ends and chips blown from the shavings/sawdust bin (unit #18) to unit #03	tons/year at 20% moisture content
Trim Saw Cyclone #19	PM10	3.3	lbs PM10/hour	hours of trim saw cyclone operation	hours per year of operation

For emission units 20 and 22 (roads), use the following equation, Table 6 below and the potential to emit data available in Table 3:

$$E = PTE \times \frac{AP}{MP}$$

Where:

E = pollutant emissions in tons/year
PTE = potential to emit from Table 3
AP = actual production identified in Table 6 in units specified
MP = maximum production provide in Table 6 (as estimated by Three Rivers Timber)

Table 6

Calculating Actual Annual Emissions for Fee Purposes for Fugitive Sources
For Emissions Units 20 and 22 (Roads)

Emission Unit and Unit ID #	Pollutant	Maximum Production (MP)	Maximum Production (Units)	Actual Production (AP)	Actual Production (Units)
paved mill roads #20	PM10	253,321	tons log/year	actual amount of logs processed in log yard during year	tons log/year
unpaved mill roads #22	PM10	152	MMbf/yr	actual amount of lumber produced during year	MMbf /year

Table 7

EMISSION FACTORS USED IN TABLES 3, 5 AND 6

Emissions Unit & ID#	Source of the Emission Factor
Debarker #01	02/90 EPA Compilation of Air Pollutant Emission Factors, “AP-42"
Debarker #02	02/90 EPA Compilation of Air Pollutant Emission Factors, “AP-42"
Shavings/Sawdust Bin Loading #03a	02/90 EPA Compilation of Air Pollutant Emission Factors, “AP-42"
Shavings/Sawdust Truck Loading #03b	02/90 EPA Compilation of Air Pollutant Emission Factors, “AP-42"
Green Chip Bin #04a	11/93 Oregon Department of Environmental Quality permitting and inspection manual

Green Chip Truck Loading #04b	02/90 EPA Compilation of Air Pollutant Emission Factors, "AP-42"	
Shavings/Sawdust Bin Cyclone #05	02/80 EPA Compilation of Air Pollutant Emission Factors, "AP-42" For ease of calculation, the AP-42 emission factor, in units of grains per dry standard cubic feet (gr/dscf), was converted to an emission factor in units of pounds per hour by using the air flow rate in cubic feet per minute (cf/min) for the unit (provided by Three Rivers Timber and considered constant) and the conversion factor of 1 lb/7000 gr as follows: $\frac{0.015\ gr}{dscf} \times \frac{8250\ cf}{minute} \times \frac{60\ min}{hour} \times \frac{1\ lb}{7000 gr} = \frac{1.1\ lbs\ PM10}{hour}$	
Green Chip Cyclone #06	11/93 Oregon Department of Environmental Quality permitting and inspection manual	
Cutoff Saw #07	02/90 EPA Compilation of Air Pollutant Emission Factors, "AP-42"	
Conveyors #08	02/90 EPA Compilation of Air Pollutant Emission Factors, "AP-42"	
Wood Waste Boiler #10	PM10	Derived by permittee from June and September 1993 source test data using EPA method 19 to calculate the factor and assuming the Btu content of the wood waste is 4500 Btu/lb.
	CO	Derived by permittee from May 31, 2000 source test data using EPA method 19 to calculate the factor and assuming the Btu content of the wood waste is 4500 Btu/lb
	NOx	02/99 EPA Compilation of Air Pollutant Emission Factors, "AP-42" Table 1.6-2
	SO2	02/99 EPA Compilation of Air Pollutant Emission Factors, "AP-42" Table 1.6-2
	VOC	11/93 Oregon Department of Environmental Quality permitting and inspection manual
Wood Waste Boiler #11	PM10	Derived by permittee from June and September 1993 source test data using EPA method 19 to calculate the factor and assuming the Btu content of the wood waste is 4500 Btu/lb
	CO	Derived by permittee from May 2000 source test data using EPA method 19 to calculate the factor and assuming the Btu content of the wood waste is 4500 Btu/lb
	NOx	02/99 EPA Compilation of Air Pollutant Emission Factors, "AP-42" Table 1.6-2

	SO2	02/99 EPA Compilation of Air Pollutant Emission Factors, "AP-42" Table 1.6-2
	VOC	11/93 Oregon Department of Environmental Quality permitting and inspection manual
Boiler Blowdown #12	Based on percent VOC content of corrosion inhibitor as contained in Material Data Safety Sheet and assuming 100% evaporation of VOCs	
Fuel Bin Cyclone #13	11/93 Oregon Department of Environmental Quality permitting and inspection manual	
Shavings/Sawdust Bin Shavings Cyclone #14	11/93 Oregon Department of Environmental Quality permitting and inspection manual	
Hog Fuel Bin #15	02/90 EPA Compilation of Air Pollutant Emission Factors, "AP-42"	
Atlas Fuel Bin #16	02/90 EPA Compilation of Air Pollutant Emission Factors, "AP-42"	
Lumber Dry Kiln #17	PM10	Idaho Department of Environmental Quality Emission Factor Guide for the Wood Industry 01/08/97
	VOC	National Council of the Paper Industry for Air and Stream Improvement (NCASI), Technical Bulletin No. 718, July 1996
Hog Cyclone #18	11/93 Oregon Department of Environmental Quality permitting and inspection manual	
Trim Saw Cyclone #19	02/80 EPA Compilation of Air Pollutant Emission Factors, "AP-42" For ease of calculation, this factor was converted from gr/dscf (grains per dry standard cubic foot) to an emission factor in units of pounds per hour by using the air flow rate in cubic feet per minute (cf/min) for the unit (provided by Three Rivers Timber and assumed to be constant) and the conversion factor of 1 lb/7000 gr as follows: $\frac{0.015\ gr}{dscf} \times \frac{2600\ cf}{minute} \times \frac{60\ min}{hour} \times \frac{1\ lb}{7000gr} = \frac{3.3\ lbs\ PM10}{hour}$	
Paved and unpaved log yard and mill roads #20 and 22	Permittee calculated potential to emit using an emission factor from 05/83 EPA Compilation of Air Pollutant Emission Factors, "AP-42", and estimates of maximum vehicle miles traveled. To calculate actual emissions, EPA recommends that the source multiply the potential to emit value (i.e., the maximum possible emissions) by a ratio of the actual production of the activity (e.g., logs handled in the log yard) divided by the maximum production rate estimated by the source.	